Exploring Aeronautics			
2000 Mathematics			
Academic Standards			
Indiana Mathematics			
Grade 5			
Activity/Lesson	State	Standards	
Wings(177-208)	IN	MA.5.5.5.2	Solve problems involving perimeters and areas of rectangles, triangles, parallelograms, and trapezoids, using appropriate units.
The Resource Center	IN	MA.5.5.1.7	Identify on a number line the relative position of simple positive fractions, positive mixed numbers, and positive decimals.
Integrating with Aeronautics	IN	MA.5.5.1.3	Arrange in numerical order and compare whole numbers or decimals to two decimal places by using the symbols for less than (<), equals (=), and greater than (>).
Integrating with Aeronautics	IN	MA.5.5.1.7	Identify on a number line the relative position of simple positive fractions, positive mixed numbers, and positive decimals.
Integrating with Aeronautics	IN	MA.5.5.3.1	Use a variable to represent an unknown number.
Integrating with Aeronautics	IN	MA.5.5.3.7	Use information taken from a graph or equation to answer questions about a problem situation.
Scientific Method(124-144)	IN	MA.5.5.3.7	Use information taken from a graph or equation to answer questions about a problem situation.
Scientific Method(124-144)	IN	MA.5.5.6.1	Explain which types of displays are appropriate for various sets of data.
Exploring Aeronautics			
2000 Mathematics			
Academic Standards			
Indiana Mathematics			
Grade 6			
Activity/Lesson	State	Standards	
Wings(177-208)	IN	MA.6.6.5.3	Understand and use larger units for measuring area by comparing acres and square miles to square yards and square kilometers to square meters.
The Resource Center	IN	MA.6.6.1.1	Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").
The Resource Center	IN	MA.6.6.1.2	Interpret the absolute value of a number as the distance from zero on a number line, and find the absolute value of real numbers.
The Resource Center	IN	MA.6.6.1.3	Compare and represent on a number line positive and negative integers, fractions, decimals (to hundredths), and mixed numbers.
Science of Flight	IN	MA.6.6.5.1	Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.

Integrating with Aeronautics	IN	MA.6.6.1.1	Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").
Integrating with Aeronautics	IN	MA.6.6.1.2	Interpret the absolute value of a number as the distance from zero on a number line, and find the absolute value of real numbers.
Integrating with Aeronautics	IN	MA.6.6.1.3	Compare and represent on a number line positive and negative integers, fractions, decimals (to hundredths), and mixed numbers.
Integrating with Aeronautics	IN	MA.6.6.3.2	Write and use formulas with up to three variables to solve problems.
Integrating with Aeronautics	IN	MA.6.6.3.5	Use variables in expressions describing geometric quantities.
Integrating with Aeronautics	IN	MA.6.6.3.9	Investigate how a change in one variable relates to a change in a second variable.
Scientific Method(124-144)	IN	MA.6.6.6.1	Organize and display single-variable data in appropriate graphs and stem-and-leaf plots, and explain which types of graphs are appropriate for various data sets.

Exploring Aeronautics		
2000 Mathematics		
Academic Standards		

Indiana Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	IN	MA.7.7.5.1	Compare lengths, areas, volumes, weights, capacities, times, and temperatures within measurement systems.
Wings(177-208)	IN	MA.7.7.5.4	Use formulas for finding the perimeter and area of basic two-dimensional shapes and the surface area and volume of basic three-dimensional shapes, including rectangles, parallelograms, trapezoids, triangles, circles, right prisms, and cylinders.
Wings(177-208)	IN	MA.7.7.5.6	Use objects and geometry modeling tools to compute the surface area of the faces and the volume of a three-dimensional object built from rectangular solids.
Tools of Aeronautics(257-326)	IN	MA.7.7.5.3	Read and create drawings made to scale, construct scale models, and solve problems related to scale.
The Tools of Aeronautics	IN	MA.7.7.5.3	Read and create drawings made to scale, construct scale models, and solve problems related to scale.
The Resource Center	IN	MA.7.7.1.2	Compare and order rational and common irrational numbers and place them on a number line.
Science of Flight	IN	MA.7.7.5.3	Read and create drawings made to scale, construct scale models, and solve problems related to scale.

Integrating with Aeronautics	IN	MA.7.7.1.2	Compare and order rational and common irrational numbers and place them on a number line.
Integrating with Aeronautics	IN	MA.7.7.2.4	Use estimation to decide whether answers are reasonable in problems involving fractions and decimals.
Integrating with Aeronautics	IN	MA.7.7.3.1	Use variables and appropriate operations to write an expression, a formula, an equation, or an inequality that represents a verbal description.
Integrating with Aeronautics	IN	MA.7.7.3.2	Write and solve two-step linear equations and inequalities in one variable and check the answers.
Integrating with Aeronautics	IN	MA.7.7.4.3	Know and understand the Pythagorean Theorem and use it to find the length of the missing side of a right triangle and the lengths of other line segments. Use direct measurement to test conjectures about triangles.
Scientific Method(124-144)	IN	MA.7.7.6.1	Analyze, interpret, and display data in appropriate bar, line, and circle graphs and stem-and-leaf plots, and justify the choice of display.
Scientific Method(124-144)	IN	MA.7.7.6.4	Analyze data displays, including ways that they can be misleading. Analyze ways in which the wording of questions can influence survey results.
		Exploring Aeronautics	
		2000 Mathematics	
		Academic Standards	
Indiana Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Wings(177-208)	IN	MA.8.8.5.4	Use formulas for finding the perimeter and area of basic two-dimensional shapes and the surface area and volume of basic three-dimensional shapes, including rectangles, parallelograms, trapezoids, triangles, circles, prisms, cylinders, spheres, cones, and pyramids.
Science of Flight	IN	MA.8.8.5.1	Convert common measurements for length, area, volume, weight, capacity, and time to equivalent measurements within the same system.
Science of Flight	IN	MA.8.8.6.2	Identify different methods of selecting samples, analyzing the strengths and weaknesses of each method, and the possible bias in a sample or display.
Integrating with Aeronautics	IN	MA.8.8.2.1	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) in multi-step problems.

Integrating with Aeronautics	IN	MA.8.8.3.1	Write and solve linear equations and inequalities in one variable, interpret the solution or solutions in their context, and verify the reasonableness of the results.
Integrating with Aeronautics	IN	MA.8.8.3.4	Use the correct order of operations to find the values of algebraic expressions involving powers.
Integrating with Aeronautics	IN	MA.8.8.3.8	Demonstrate an understanding of the relationships among tables, equations, verbal expressions, and graphs of linear functions.
Integrating with Aeronautics	IN	MA.8.8.3.9	Represent simple quadratic functions using verbal descriptions, tables, graphs, and formulas and translate among these representations.
Integrating with Aeronautics	IN	MA.8.8.4.5	Use the Pythagorean Theorem and its converse to solve problems in two and three dimensions.
Scientific Method(124-144)	IN	MA.8.8.6.1	Identify claims based on statistical data and, in simple cases, evaluate the reasonableness of the claims. Design a study to investigate the claim.
Scientific Method(124-144)	IN	MA.8.8.6.2	Identify different methods of selecting samples, analyzing the strengths and weaknesses of each method, and the possible bias in a sample or display.
Scientific Method(124-144)	IN	MA.8.8.6.4	Analyze, interpret, and display single- and two-variable data in appropriate bar, line, and circle graphs; stem-and-leaf plots; and box-and-whisker plots and explain which types of display are appropriate for various data sets.